

REMARKS

Claims 1-7 remain pending in the present application. Claims 1 and 3 have been amended. Claims 6 and 7 are new. Basis for the amendments and new claims can be found throughout the specification, claims and drawings originally filed.

REJECTION UNDER 35 U.S.C. § 102

Claims 1-3 and 5 are rejected under 35 U.S.C. § 102(b) as being anticipated by Seisakusho (JP 11-237192). In JP 11-237192, as described in the enclosed partial English translation of paragraph [0018] in column 4 of the specification, a coolant flows in a U-shape in a body 5 while an exhaust gas flows in a straight line in heat exchange tubes 7. That is, in JP '192, an inlet 12 and an outlet 13 of the coolant are arranged at the same side of the body 5, and a partition plate 8 exists at an inlet side of the exhaust gas in the body 5, but does not exist at an outlet side of the exhaust gas in the body 5. Thus, a coolant passage in the body 5 is formed in a U-shape. Consequently, flow resistance of the coolant in the passage becomes larger and the flow rate of the coolant is reduced. Therefore, there is a disadvantage that the efficiency of heat exchange is lowered. There is also a further disadvantage in that it is easy for the coolant to boil at the inlet side of the exhaust gas in the coolant passage.

On the other hand, in the present invention, in amended Claim 1, the coolant inlet 25 of each of the casings 20 is arranged at one side of the casing 20 and the coolant outlet 26 of each of the casings 20 is arranged at the opposite side of the casing 20, and the coolant flows in the casings 20 parallel to the tubes 11 of the exhaust gas flowing. Accordingly, compared with the prior art heat exchanger, in the heat exchanger

of the present invention, it is possible to prevent the flow rate of the coolant from being reduced.

Thus, Applicant believes Claim 1, as amended, patentably distinguishes over the art of record. Likewise, Claims 2, 3 and 5, which depend from Claim 1, are also believed to patentably distinguish over the art of record. Reconsideration of the rejection is respectfully requested.

NEW CLAIMS

New Claim 6 is a dependent claim depending from Claim 3.

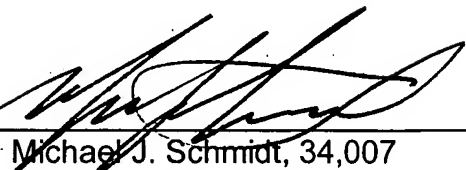
New Claim 7 is an independent claim which is a combination of original Claims 1 and 4. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 4 depended from Claim 1.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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[0018]

As shown in Fig. 2, in the body 5, four heat exchange tubes 7 are disposed, and a partition plate 8 is provided at the center of the body 5, in parallel with the heat exchange tubes 7, to define two passages 14a, 14b, each accommodating two heat exchange tubes 7 in the body 5. The partition plate 8 is bent in an L-shape at its opposed side edges which are brazed to an inner wall surface of the body 5. The partition plate 8 is shorter than the entire length of the body 5, and abuts, at one end thereof, against an end plate 6 on the EGR gas inlet side. Namely, there is no partition plate 8 on the EGR gas outlet side of the body 5, and the two passages 14a, 14b are merged. Thus, in the body 5, a U-shaped cooling water passage extends from the cooling water inlet 11 to the cooling water outlet 12.